

REMARKS

Claims 20-42, 71, and 72 are pending in this application. Claims 1-19 and 43-70 were previously withdrawn from prosecution in this application.

The Examiner in the Final Office Action dated October 31, 2007 rejected claims 20-42, 71, and 72 under 35 U.S.C. § 103(a) as being unpatentable over Schrenk (U.S. Patent No. 3,589,958) in view of Chisholm (U.S. Patent No. 3,765,922), for the reasons set forth on pages 2-5 of the instant Final Office Action. Briefly, the Examiner contends that Schrenk discloses all of the limitations of independent claims 20 and 42, except the Examiner concedes that Schrenk does not disclose the steps of forming a forming body panels and closing the body panels to form a bag. Additionally, the Examiner acknowledges that Schrenk does not disclose providing fibers in a pre-cut form.

The Examiner contends that the steps of forming body panels and closing those panels to form a bag are well known in the art. The Examiner relies upon Chisholm as allegedly disclosing a method similar to that of Schrenk but including providing a plurality of pre-cut fibers. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of making a fiber web of Schrenk by substituting the filament of Schrenk with pre-cut fibers as allegedly suggested by Chisholm, in order to easily control the desired thickness of the web.

The Examiner additionally acknowledges that Schrenk does not disclose that the fibers are electrically charged as recited in independent claim 42. The Examiner contends that electrically charging fibers to increase their affinity to a surface is well known in the art and that it would have been obvious to one of skill in the art at the time of the invention to have modified Schrenk's process by electrically charging fibers in order to improve quality and toughness.

Applicant respectfully traverses the rejections and submits that neither Schrenk nor Chisholm, alone or in combination, discloses or suggests the claimed blown-film process for making a fiber-reinforced bag as recited in independent claims 20 and 42.

"To establish a *prima facie* case of obviousness ... there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.” MPEP § 2143.

At a minimum, Applicant respectfully submits that neither the Schrenk nor Chisholm, alone or in combination, disclose all of the features of the claimed invention.

Independent claims 20 and 42 recite blown-film processes for making a fiber-reinforced bag including the steps of providing and melting at least one thermoplastic resin, extruding the resin through a die to form a film bubble, providing pre-cut fibers, introducing those fibers inside of the film bubble and distributing the fibers inside of the bubble. As recited in independent claims 20 and 42, the film bubble is collapsed after introduction of the fibers so as to form a fiber-reinforced film. As further recited by independent claims 20 and 42, the process includes forming first and second body panels from the fiber-reinforced film and closing those panels along two opposite sides and a bottom to form a fiber-reinforced bag.

Independent claim 42 additionally recites that the thermoplastic resin be selected from polyolefins, polyesters, nylons, alkenyl aromatic polymers, polyvinyl chlorides, and combinations of those polymers. Independent claim 42 also recites that the process includes that the plurality of pre-cut fibers are electrically charged to assist in improving the affinity of the fibers to the film bubble.

Applicant respectfully submits that neither Schrenk nor Chisholm, alone or in combination, discloses or suggests the key features of the claimed blown-film process for making a fiber-reinforced bag as recited in independent claims 20 and 42.

Applicant respectfully submits that Schrenk does not disclose or suggest distributing fibers inside of a film bubble as required by Applicant’s independent claims 20 and 42. As described in the present application, for example at paragraphs 84-86, the fibers are separated and fluidized, for example in an air stream, in order to be placed in a roughly even distribution to result in a better reinforced film. In order to attain such a distribution, the fibers may be distributed by an “air conveying system that blows the plurality of fibers towards the inner surface of the film bubble or tube.” (See paragraph 86).

Applicant respectfully submits that neither Schrenk nor Chisholm discloses distributing fibers inside a film bubble by fluidizing the fibers. Rather, Schrenk discloses a spinning extruder that deposits a filament or filaments onto the inner surface of a film bubble by the centrifugal force created by the spinning extruder. Similarly, Chisholm discloses that “[t]he strands or filaments 19 are formed by centrifugal extrusion in a centrifugal extruder 15 ... [and] [i]n order to achieve full width coverage of the strands or filaments 19 on the base 14, the centrifugal extruder 15 is traversed from one side to the other of the base 14.” (See Chisholm, col. 4, lines 7-14).

Applicant respectfully submits that neither Schrenk nor Chisholm disclose or suggest distributing the fibers inside of the film bubble as required by independent claims 20 and 42 of the present application.

Additionally, Applicant submits that, as noted by the Examiner, Schrenk does not disclose or suggest introducing a plurality of pre-cut fibers inside of a film bubble. Rather, Schrenk discloses dispensing a filament which may be severed into shorter lengths as it is dispensed. This results in a serial dispensing of fibers and not introduction of a plurality of pre-cut fibers. The Examiner relies upon Chisholm as disclosing introduction of a plurality of pre-cut fibers and cites to FIGS. 1 and 3 of Chisholm. However, Applicant respectfully submits that, as discussed above, FIGS. 1 and 3 of Chisholm disclose that “[t]he strands or filaments 19 are formed by centrifugal extrusion in a centrifugal extruder 15 ... and freed therefrom by a knife 20.” (See Chisholm, col. 4, lines 7-10).

Applicant respectfully submits that neither Schrenk nor Chisholm disclose or suggest introducing a plurality of pre-cut fibers inside a film bubble as required by independent claims 20 and 42 of the present application.

Additionally, Applicant respectfully submits that neither Schrenk nor Chisholm discloses or suggests the plurality of pre-cut fibers being electrically charged to assist in improving the affinity of the fibers to the film bubble as recited in independent claim 42 and dependent claim 32.

Furthermore, Applicant respectfully submits that neither Schrenk nor Chisholm provides motivation to modify the process of Schrenk to arrive at the invention as claimed. The system of

Chisholm is drawn to solving the problem of increasing adhesion of flocking filaments to a substrate and minimizing the wasted flocking material. This is of particular use with regard to conventional flock articles such as carpets and other fabrics. There is no suggestion of or motivation for using the system and method of Chisholm for purposes of making fiber-reinforced bags.

Without such motivation, Applicant respectfully submits that the claimed invention is not obvious based upon Schrenk in view of Chisholm. For at least this reason, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103(a). However, even assuming *arguendo* that motivation to combine the references were found in Chisholm, Applicant respectfully submits that, as discussed above, Schrenk, alone or in combination with Chisholm, would still not disclose or suggest all of the claimed features of the pending claims.

Applicant further submits that the pending claims are not obvious over the prior art in accordance with *KSR International Co. v. Teleflex Inc.*, 127 U.S. 1727, L.Ed.2d 705. Under *KSR*, the combination of prior art elements is required to provide predictable results to support a finding of obviousness. Applicant submits that, even if all of the claim features were disclosed in Schrenk and Chisholm, there is no suggestion or indication that combining the references would yield predictable results. As discussed above, the system of Chisholm is drawn to solving the problem of increasing adhesion of flocking filaments to a substrate and minimizing the wasted flocking material. This is of particular use with regard to conventional flock articles such as carpets and other fabrics.

The instant invention is drawn to blown-film process for making a fiber-reinforced bag, in particular a fiber-reinforced bag with desirably high tear strength, tensile strength, and puncture-resistant properties. It is desirable that, in order to attain such properties, the fibers in the instant application are placed in a roughly even and random distribution, which is affected by fluidizing the fibers. Applicant respectfully submits that both Schrenk and Chisholm incorporate centrifugal extrusion of fibers which distributes fibers in a generally oriented manner, and it would require a significant modification of Schrenk and Chisholm to incorporate a blower or

other device to effect randomization of fiber distribution. Applicant submits that one of ordinary skill in the art would not combine Schrenk and Chisholm because, among other things, the results of combining Schrenk's method of making a fiber web with Chisholm's method of flocking a substrate would not be predictable.

In view of the above, Applicant respectfully submits that a person having ordinary skill in the art could not have combined the disclosures of Schrenk and Chisholm in such a way that encompassed the rejected claims, nor would the benefits or results have been predictable.

For at least these reasons, Applicant submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Therefore, Applicant respectfully submits that independent claims 20 and 42 as amended are in condition for allowance. Claims 21-41 and 71 depend from claim 20 and are in condition for allowance. Claim 72 depends from claim 42 and is in condition for allowance.

Dependent Claims

Applicant respectfully submits that claims 21-41 and 71 depend from independent claim 20 and are in condition for allowance at least for the reasons discussed herein above. Likewise, Applicant respectfully submits that claim 72 depends from independent claim 42 and is in condition for allowance at least for the reasons discussed herein above.

Furthermore, since the dependent claims disclose additional features not disclosed by Schrenk or Chisholm taken alone or in combination, Applicant submits that claims 21-41, 71, and 72 are non-obvious based upon Schrenk in view of Chisholm. For example, claims 21-23 feature particular steps to form a bag from fiber-reinforced film; claims 24-26 feature particular polymers and blends of polymers for the thermoplastic resin; claims 27-30 feature particular dimensions for the film; claim 31 features a particular type of extension die; claim 32 features electrically charging the fibers; claims 33 and 34 feature the fibers adhering to an inner surface of the bubble; claims 35 and 36 feature particular extruders; claims 37-41 feature particular materials and properties of the fibers; and claims 71 and 72 feature a fiber layer thick such that the first and second thermoplastic layers are substantially not in contact.

Claim 32

Applicant respectfully submits that neither Schrenk nor Chisholm discloses or suggests the plurality of the fibers being electrically charged to assist in improving the affinity of the plurality of fibers to the film bubble as recited by dependent claim 32. Furthermore, Applicant submits that it would not have been obvious to one of skill in the art to modify Schrenk or Chisholm to include charging the fibers because both Schrenk and Chisholm employ centrifugal extruders that throw fibers or filaments directly towards the film surface as opposed to fluidizing the fibers as disclosed in the present application.

In view of the above, Applicant respectfully submits that a person having ordinary skill in the art could not have combined the disclosures of Schrenk and Chisholm in such a way that encompassed the rejected claim, nor would the benefits or results have been predictable.

Applicant respectfully submits that dependent claim 32 is allowable over Schrenk and Chisholm either alone or in combination.

Claims 71 and 72

Additionally, Applicant respectfully submits that neither Schrenk nor Chisholm discloses or suggests disposing the plurality of fibers in a fiber layer such that the first thermoplastic layer and the second thermoplastic layer are substantially not in contact as recited by dependent claims 71 and 72. Applicant respectfully submits that because Schrenk employs a centrifugal extruder, which deposits a filament or filaments on the inner surface of a film bubble in a serial manner, it would not be possible to deposit sufficient fiber on the inner surface of the film bubble in order to create a fiber layer such that the first and second thermoplastic layers are substantially not in contact. Additionally, Chisholm does not disclose or suggest a second thermoplastic layer. Rather, in Chisholm, fibers are distributed on a film surface by a centrifugal extruder and the film bubble is then “slit longitudinally to appear therefrom as a conventional web-like material.” (See Chisholm, col. 5, lines 4-5).

In view of the above, Applicant respectfully submits that a person having ordinary skill in the art could not have combined the disclosures of Schrenk and Chisholm in such a way that encompassed the rejected claims, nor would the benefits or results have been predictable.

Applicant respectfully submits that dependent claims 71 and 72 are allowable over Schrenk and Chisholm either alone or in combination.

Formal Request for Interview

Applicant submits that the present application is in condition for allowance at least for the reasons set forth herein. If the present application is not considered to be in condition for allowance by the Examiner, Applicant requests an interview with the Examiner to discuss the present application and the prior art of record. Applicant's Attorney Daniel J. Hulseberg may be reached at telephone number (212) 408-2594 to schedule a mutually convenient date and time and to provide assistance or additional information as required.

CONCLUSION

On the basis of the foregoing Remarks, Applicant submits that this Amendment After Final does not raise new issues for consideration or necessitate the undertaking of any additional search of the art by the Examiner. This Amendment After Final should therefore allow for immediate action by the Examiner.

Applicant also submits that entry of this Amendment After Final and the accompanying remarks would place the present application in better form for appeal, should the Examiner dispute the patentability of any of the pending claims.

On the basis of the foregoing Remarks, Applicant respectfully submits that the pending claims of the present application are allowable over the prior art of record. Applicant thus respectfully requests that this Amendment After Final be entered by the Examiner and the rejections of the pending claims be withdrawn.

The Examiner is invited to contact the undersigned at (212) 408-2500 if any additional information or assistance is required.

Applicant authorizes the Commissioner to charge any fees (including fees for extra claims) and/or credit any overpayments associated with this paper to Baker Botts L.L.P. Deposit Account No. 02-4377, Ref. No. 077409.0455. Further, if a fee is required for an extension of time under 37 C.F.R. § 1.136 not provided for above, Applicant requests such extension and

authorizes the charging of the extension fee to Baker Botts L.L.P. Deposit Account No. 02-4377,
Ref. No. 077409.0455.

Respectfully submitted,

Dated: December 28, 2007

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